## REMARKS

Applicants appreciate the time taken by the Examiner to review Applicants' present application. This application has been carefully reviewed in light of the Official Action mailed July 3, 2006. Applicants respectfully request reconsideration and favorable action in this case.

## REJECTIONS UNDER 35 USC § 103

**Claims 1 - 5,12 -16, and 37 stand** rejected under 35 U.S.C. 103(a) as being unpatentable as being unpatentable over Zhang et al. (US 6,327,219) in view of Lorraine et al. (US 5,801,312).. The Examiner states:

> Regarding **claims 1 and 37.** Zhang discloses that a System for Controlling operations associated with generating and detecting ultrasonic surface displacements on a remote object, the operations including obtaining Information associated with the object, the System (column 2, lines 18 - column 3, lines 33 and Fig. 1, where teaches a System operates generating and detecting ultrasonic signals on surface of a object, an RF transmitter communicates with s processor for transmitting the encoded RF signal carrying the identification and time Information to the RF receiver of the tracker upon the reception of the ultrasonic signals by the ultrasonic detector). Zhang teaches that a processor (15 in Fig. 1). Zhang teaches that an ultrasonic System linked with the processor (Fig. 1 and column 4, lines 21 - column 5, lines 14, where teaches an ultrasonic System coupled to the a processor). Zhang teaches that a wireless communicator generating a command signal (column 2, lines 19-45, Fig. 1, 3, and column 4, lines 22 -60, where teaches for generating an encoded ultrasonic signal are provided, each having a control input communicating with the first processor for emitting an encoded ultrasonic signal generally toward the guider in response to a command signal from the first signal). Zhang teaches that the processor receiving the command signal and operating the ultrasonic System based on the command signal (column 2, lines 19-45, Fig. 1, 3, and column 4, lines 22 - 60, where teaches for generating and operating an encoded ultrasonic signal are provided, each having a control input communicating with the first processor for emitting an encoded ultrasonic signal generally toward the guider in response to a command signal from the first signal).

Zhang does not specifically teach the limitation "a laser ultrasonic System for Controlling operations associated with generating and detecting ultrasonic surface displacements on a remote object". However, Lorraine discloses the limitation "a laser ultrasonic System for Controlling operations associated with generating and detecting ultrasonic surface displacements on a remote object" (column 1, lines 61 - column 2, lines 43 and Fig. 1, where teaches a laser ultrasonic System operates generating and detecting ultrasonic surface displacements on a remote object at each scanning position that contains Signals representing a laser ultrasonic waveform data set corresponding a to a three dimensional Volumetrie region in the remote object). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Zhang System as taught by Lorraine, provide the motivation to achieve generating laser ultrasonic focused images with high resolution across a surface in a laser ultrasonic imaging System.

Regarding **claim 2.** Zhang discloses that a restricted System (column 1, lines 13 - column 2, lines 12 and Fig. 1, where teaches putting a strong restriction on its applications for portable use).

Regarding **claim 3.** Zhang discloses that the restricted System includes a barrier (column 1, lines 13 - column 2, lines 12 and Fig. 1, where teaches putting a strong restriction on its applications for portable use, using a golf cart or luggage cart as an example).

Regarding **claim 4.** Zhang and Lorraine disclose all the limitation as discussed in Claims 1 and 3. Furthermore, Zhang further disclose that the System is enclosed by the barrier (column 1, lines 13 - column 2, lines 12 and Fig. 1, where teaches putting a strong restriction on its applications for portable use, using a golf cart or luggage cart as an example).

Regarding **claim 5.** Zhang discloses that the wireless communicator opens the barner (column 3, lines 7 - 59 and Fig. 1, where teaches beneficial for vehicles such as golf carts and luggage carts traveling along a crowed or complex environment).

Regarding **claim 12.** Zhang and Lorraine disclose all the limitation as discussed in claims 1 and 3. Furthermore, Zhang fiirther disclose that the operations include

Controlling a robotic device (Fig. 2 and column 5, lines 1 - 60, where teaches for Controlling moving vehicle such as a fiilly automatic device).

Regarding **claim 13.** Zhang and Lorraine disclose all the limitation as discussed in claims 1 and 3. Furthermore, Zhang fiirther disclose that the wireless communicator generates a command signal associated with the robotic device (column 4, lines 22 - column 5, lines 60 and Fig. 1, 2, where teaches for generating an encoded ultrasonic signal are provided, each having a control input communicating with the first processor for emitting an encoded ultrasonic signal generally toward the guider in response to a command signal frora the first signal for Controlling moving vehicle such as a fiilly automatic device).

Regarding **claim 14.** Zhang discloses that the wireless communicator generates a command signal based on the typematic rate of interface (column 4, lines 22 - column 5, lines 60 and Fig. 1, 2, where teaches for generating an encoded ultrasonic signal are provided, each having a control input communicating with the first processor for emitting an encoded ultrasonic signal generally toward the guider in response to a command signal from the first signal for Controlling moving vehicle such as a fiilly automatic typemetal device).

Regarding **claim 15.** Zhang discloses that the wireless communicator continuously generates a command signal based on a typematic rate of interface (column 4, lines 22 - column 5, lines 60 and Fig. 1, 2, where teaches for generating an encoded ultrasonic signal are provided, each having a control input communicating with the first processor for emitting an encoded ultrasonic signal generally toward the guider in response to a command signal from the first signal for Controlling moving vehicle such as a fully automatic typemetal device).

Regarding **claim 16.** Zhang discloses that the wireless communicator continuously generates a plurality of command signals based on the typematic rate of interface (column 4, lines 22 - column 5, lines 60 and Fig. 1, 2, where teaches for generating an encoded ultrasonic signal are provided, each having a control input communicating with the first processor for emitting an encoded ultrasonic signal generally toward the guider in

response to a command signal from the first signal for Controlling moving vehicle such as a **fully** automatic typemetal device).

Applicant respectfully points out that in order to combine references for an obviousness rejection, there must be some teaching, suggestion or incentives supporting the combination. *In re Laskowski*, 871 F.2d 115, 117, 10 U.S.P.Q. 2d 1397, 1399 (Fed. Cir. 1989). The mere fact that the prior art could be modified does not make that modification obvious unless the prior art suggests the desirability of the modification. *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). In addition, it is well established that Applicant's disclosure cannot be used to reconstruct Applicant's invention from individual pieces found in separate, isolated references. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596 (Fed. Cir. 1988).

Applicant respectfully submits that there is no motivation, teaching or suggestion to combine Zhang with Lorraine. Therefore, the rejection on a combination of these references is inappropriate. Withdrawal of the rejection allowance of Claims 1 - 5, 12 -16, and 37 is respectfully requested.

Applicant further submits that neither Zhang or Lorraine alone nor the combination of the two teaches or suggests make obvious the invention recited in Claims 1 - 5, 12 -16, and 37 because the cited references teach away from the Applicant's invention, or fail to mention any such device at all.

Applicant respectfully submits that Zhang fails to teach or suggest the invention recited in the Claims, because Zhang teaches away from the Applicant's invention. The applicant respectfully submits that Zhang can be distinguished from the present invention. The laser ultrasonic system provided by and claimed in the present invention is a laser ultrasonic non destructive evaluation (NDE) inspection system. The present invention as claimed in independent Claims 1, 37 and 38 generates ultrasound within a target material or remote object. The ultrasonic displacements associated with this ultrasound is then detected. This differs from Zhang. In Zhang encoded ultrasonic signals are produced by transducers within the remote object. The ultrasound propogates through free space and is detected by a detection system. Ultrasonic inspection should not be construed as ultrasound inspection. The encoded ultrasonic signals of Zhang are also modulated to carry source identification information. These ultrasonic signals are utilized for steering a device toward an object to be followed.

The embodiments of the present invention use ultrasonic displacements within target materials (i.e. a remote object) to perform NDE inspections of the structure of target materials such as composites. No means within the target materials is required to locally and independently generate the ultrasound. The laser ultrasound NDE system uses a generation laser positioned and directed by the robotic device to generate ultrasonic displacements in the target materials which are then detected with a detection laser. These optical signals may then be processed in order to gain information about the internal structure of the target materials. The applicant respectfully submits that Zhang fails to perform any nondestructive evaluation of materials (i.e. determine an internal structure.) Rather ultrasound is generated which propagates through space while in the present invention the ultrasonic displacements propagate within with target materials wherein displacements of the target materials are sensed.

The applicant respectfully traverses the examiner's interpretation of Zhang and asserts that Zhang fails to disclose generating and detecting of ultrasonic surface displacements on the object. Furthermore, the applicant respectfully submits that the claims have been amended to more clearly state that the generation and detection of ultrasonic surface displacements at a remote object or target materials is involved with the determination of an internal structure with an NDE evaluation of those target materials.

The ultrasonic displacements within the target materials are not used to command the NDE inspection system of the independent claims.

The applicant further submits that Claim 1 has been amended wherein a default or second command signal is issued to the robotic device when the typematic rate of interface changes beyond a predetermined threshold.

With respect to the examiner's statement that, Zhang does not specifically teach the limitation 'a laser ultrasonic system for controlling operations associated with generating a detecting ultrasound surface displacements on a remote target'". The applicant respectfully submits that independent Claims 1 and 37 provide for a wireless control system that maybe used with a laser ultrasonic NDE inspection system wherein the wireless control system is operable to control operations associated with the robotic system. Thus the applicant respectfully submits that there is no motivation to combine Zhang and Loraine. Furthermore should one combine Zhang and Loraine that combination would merely allow a laser ultrasonic system to determine

the relative position between the laser ultrasonic system and a remote object. No laser ultrasound generated using the laser ultrasound system within the remote object would be audibly detected to determine that position or command the inspection system. Therefore one would not combine the teachings of Braden and Truax to reach the claimed invention.

The present invention is directed to a wireless remote for use within a cluttered and hazardous work environment. Prior safety requirements required that the remote be hardwired where a default command is issued when a communication failure occurs. The present invention provides a wireless control system, wherein the need for additional control cables that may hinder operations or endanger users is removed.

Applicant, therefore, respectfully requests the Examiner to reconsider and withdraw the rejection to allow 1 - 5, 12 -16, and 37.

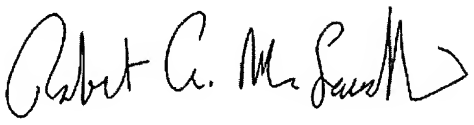
## CONCLUSION

Applicants have now made an earnest attempt to place this case in condition for allowance. For the foregoing reasons and for other reasons clearly apparent, Applicants respectfully request full allowance of Claims 1 - 5, 12 -16, and 37-39.

An extension of three (3) months is requested Under 37 C.F.R. § 1.136 with the appropriate fee is attached hereto.

The Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No.50-2126 of Garlick, Harrison and Markison.

Respectfully submitted,



By: _____

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Dated: January 3, 2007

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